Distribution of coal Seam 1 and 2 quality based on water content analysis, ash, carbon and caloric value of the Telen Coal Eco Company Concession Area, sub region Ben Heas Muara Wahau, East Kutai Regency, East kalimantan

Nugroho, Purwo Adi. 2009. *Distribution of coal Seam 1 and 2 quality based on water content analysis, ash, carbon and caloric value of the Telen Coal Eco Company Concession Area, sub region Ben Heas Muara Wahau, East Kutai Regency, East kalimantan*. Undergraduate thesis, Diponegoro University, Semarang.

Abstract

Coal is one of natural energy resources that potencially for alternative exchange for oil and natural gas. Beside the price is lower, using of coal was very advice to change oil and natural gas which price is very high and stock is limited.

Globally, coal can be classified in five level (from the higher to the lowest) such as : anthracite, bituminous coal, sub bituminous coal, lignite and peat. To determining quality of coal was executed with chemical analysis of coal such as proximate analysis and ultimate analysis. Proximate analysis was done to decide water quantity (moisture), volatile matter, fixed carbon, ash and sulfur content. Ultimate analysis was done to decide chemical substance quantity for the coal like : carbon, hydrogen, oxygen, nitrogen, sulfur and other substance. Maceral analysis relied on by fossil and substance formed the coal (vitrinite, exinite / liptinite, inertinit).

Methods of performed within this research is descriptive method and analysis method that include a logging interpretation, making a longitudinal section, correlation of dot drill, and also cartography of pattern of spreading of coal and map of distribution quality of coal . Data used by primary data (data of log drill, data of geophysical logging and data analysis the quality of coal) and some of secondary data(geology regional, literature of study, etc). Pattern of Spreading of coal as seam 1 and seam 2 of area research of it's spreading continue better and thick relative. Instruct spreading of coal relative the north-east southwest. Value from each parameter of coal seam 1 have a substance of Total Moisture (TM) is 46,32%, substance of Inherent Moisture (IM) is 15,29%, substance of ash is 3,99%, substance of volatile Matter (VM) is 42,67%, substance of Fixed Carbon (FC) is 37,90%, and substace of Calorific Value (CV) is 5386,29 Cal/g. While value of quality from each parameter of coal seam 2 have a mean substance of Total Moisture (TM) is 43,26%, substance of Inherent Moisture (IM) is 14,09%, substance of ash is 9,21%, substance of Volatile Matter (VM) is 40,52%, substance of Fixed Carbon (FC) is 36,11%, and substance of Calorific value (CV) is 5196,47 Cal/g. Based on the result of calculation and classification of coal by using standart of A.S.T.M (American Society for Testing and Materials) so coal as seam 1 which is there are area of research having colorfic value 9695,32 Btu/lb in a level of Sub-Bituminous B. While as seam 2 having colorfic value 9353,65 Btu/lb in a level of Sub-Bituminous C.

Keywords : quality of coal, chemical analysis, coal spreading pattern, distribution quality of coal